### (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

## (19) World Intellectual Property Organization International Bureau



### 

(43) International Publication Date 21 December 2000 (21.12.2000)

**PCT** 

# (10) International Publication Number WO 00/76320 A1

(51) International Patent Classification<sup>7</sup>: A01N 63/00, C12N 5/02, 5/06, 5/08

(21) International Application Number: PCT/US00/16594

(22) International Filing Date: 15 June 2000 (15.06.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 09/333,809 15 June 1999 (15.06.1999) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:

US

09/333,809 (CIP)

Filed on 15 June 1999 (15.06.1999)

(71) Applicant (for all designated States except US): THE TRUSTEES OF COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK [US/US]; West 116th Street and Broadway, New York, NY 10027 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SUCIU-FOCA, Nicole [US/US]; Apartment 19A, 120 Central Park South, New York, NY 10019 (US). CORTENSINI, Raffaelio [IT/US]; Apartment 19A, 120 Central Park South, New York, NY 10019 (US). LIU, Zhuoru [US/US]; Apartment 9C, 100 Haven Avenue, New York, NY 10032 (US). CHANG, Chih-Chao [US/US]; Apartment 228, 555 Central Park Avenue, Scarsdale, NY 10583 (US).

- (74) Agent: WHITE, John, P.; Cooper & Dunham LLP, 1185 Avenue of the Americas, New York, NY 10036 (US).
- (81) Designated States (national): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

#### Published:

With international search report.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Al

(54) Title: GENERATION OF ANTIGEN SPECIFIC T SUPPRESSOR CELLS FOR TREATMENT OF REJECTION

(57) Abstract: This invention provides a method of generating antigen specific allospecific human suppressor CD8+CD28- T cells. This invention also provides a method of generating xenospecific human suppressor CD8+CD28- T cells. This invention further provides a method of generating allopeptide antigen specific human suppressor CD8+CD28- T cells. Methods of treatment for reduction of risk of rejection of allografts and xenografts and autoimmune diseases using the human suppressor CD8+CD28- T cells so produced are also provided, as are methods of preventing rejection and autoimmune diseases, and vaccines comprising the produced suppressor T cells. Methods of diagnosis to determine whether a level of immuno-suppressant therapy requires a reduction are provided.

